DOCUMENT RESUME

ED 218 900 EC 143 165

AUTHOR Kendall, William S.; Battles, Debra A.
TITLE Psychoneurological Assessment and Treatment of Language Disorders in Learning Disabled Adolescents.
PUB DATE Apr 82
NOTE 17p.; Paper presented at the Annual International Convention of the Council for Exceptional Children (60th, Houston, TX, April 11-16, 1982, Session W-44).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS High Schools; *Language Acquisition; *Learning Disabilities; *Learning Resources Centers; *Mainstreaming; Multisensory Learning
IDENTIFIERS Psychoneurological Assessment

ABSTRACT

The study investigated differences in language development between two groups of learning disabled (LD) high school students, 40 LD students in secondary regular classes, and 40 LD students integrated into regular secondary classes and receiving additional support through learning resource centers. The Test of Adolescent Language (TOAL) was used to measure Ss' language disorders. Language development of LD adolescents in learning resource centers was lower than that of LD adolescents in regular classes. Learning resource center group Ss were older and displayed lower IQ scores than the regular class group. A review of the literature supported the importance of psychoneurological assessment, sensory integration therapy, and development. (Author/SB)

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ED218900

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Psychoneurological Assessment and Treatment of Language Disorders in Learning Disabled Adolescents

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William S. Kendall
Prairie View A&M University

Debra A. Battles
Dallas, Texas

Significant concerns have recently been articulated in regards to assessment and treatment of language disorders in learning disabled students (Gearheart, 1981; Lerner, 1981; Semel & Wiig, 1981). Although language intervention for learning disabled adolescents has been proposed ie., (Bailey, 1975; deHirsch, 1963; Drake & Cavanaugh, 1970; Giles, 1975; Wiig & Semel, 1975), the emphasis remains on early intervention.

The importance of language development to the success to any student in public schools cannot be overstated. Particularly, it is believed that language programs for adolescents should be developed as thoroughly as language programs for elementary students. Research concerning the most efficacious approaches to assessment and treatment of language disorders in the learning disabled is discouraging (Gearheart, 1981; Kirk & McCarthy, 1975). Additionally, the absence of reliable standardized assessment devices for assessing language disorders in learning disabled adolescents has compounded the issue.

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While, the language of young children has been assessed by a variety of sources over the years, i.e., (Kirk, McCarthy, & Kirk, 1968; Lee, 1974; Newcomer & Hammill, 1977), language development of adolescents have remained relatively unexamined. It is important to note that children learn normally only when certain basic integrities are present and when proper opportunities for learning are provided. Adequate functioning of the peripheral and central nervous systems as well as psychological integrity is considered essential for normal language development (Johnson & Myklebust, 1967). Psychoneurological learning disabilities suggest that the disability is behavioral and the cause is neurological (Gearheart, 1981.)

Psychoneurological assessment points out that treatment for the learning disabled adolescent with language disorders should recognize the fact that it is a brain dysfunction that has altered the ways in which the student learns, and that highly consequential medical problems may be involved. Additionally, the findings of the neurologist, ophthalmologist, and occupational therapist are considered valuable to the educator. With the assistance of such specialists, we have established statistical evidence which suggests that classifications on the basis of their findings are directly related to the ways in which

the student learns most successfully (Behrens, 1963; Boshes & Myklebust, 1964; Hughes, 1967; Lawson, 1967; Zigmond, 1966). Thus, the treatment approach is guided by behavioral data and physical findings which reveal the status of the central nervous system. Specifically, this study investigated the extent to which two groups of learning disabled adolescents differed in language development. The null hypothesis of no difference was formulated.

Assessment Practices

There is a circularity of assumptions as to how learning disabled children are selected and examined (Castiglione, 1981). Accordingly, much information concerning assessment of learning disabled children has to be extracted as incidental to the results reported in many studies.

Learning disabilities are the result of perceptual processing deficits. Perception is specifically concerned with the neurological system's ability to receive stimuli, to organize such stimuli into neurological energy, and to impel this energy to appropriate portions of the central nervous system, so that appropriate language experiences can be realized. One of the premises by which we define an organic language disorder is based upon neurological dysfunction within the central nervous system (Horton, 1968). Psychoneurological assessment is required to

determine the extent of such disorder, and to provide treatment accordingly.

Sensory Integration Therapy

Little attention has been given to sensory integrative approaches aimed at treating language disorders. It is important to understand that these approaches are not meant to be a "cure-all" for L.D. children, but are intended as a supplement. Treatment is aimed at enhancing the brain's ability to learn, rather than teaching specific skills such as learning to remember a sequence of sounds. Ayres (1978) specifically states that "therapy is considered a supplement, not a substitute to formal classroom instruction or tutoring". Sensory integrative therapy reduces the severity of the difficulty and allows specific tasks to be learned more readily.

Many of today's approaches focus on remediation of brain functioning at the cortex level only, i.e., activities requiring matching, visual discrimination, auditory association etc. Ayres (1972) proposes that the efficiency of the cortex's reaction to auditory and visual processes is dependent upon the brainstem's ability to organize auditory and visual processes; thus, if the brainstem is inadequate and can not organize such sensory integrative processes, the individual may have

learning problems.

It is not claimed that sensory integrative therapy eliminates the underlying causes of inadequate neural organization and resultant learning disorder. Rather it is seen as "mitigating" some of the conditions, usually arising from unknown causes, that directly interfere with learning. It is supposed that normalizing these conditions through therapy comes closer to altering the underlying neurological dysfunction (regardless of cause) than do typical academic procedures. In addition, only some, and not all types of neurological dysfunctions are thought to be influenced by this type of therapeutic approach.

Emmotional Development

Learning disabled youngsters consistently exhibit significantly more social problems than their non handicapped peers. Additionally, learning disabled children are singled out by peers and adults as evidencing more negative social behavior and consequently they occupy a lower social status (Bruininks, 1978; Bryan & Bryan, 1977).

The adolescent with learning disabilities will portray the identical range of emotional reactions to stress as other students. Just as many other students

who are hyperactive, impulsive, and confused are not students with learning disabilities, all students with disturbing behavioral patterns are not the result of emotional disturbance. Many students with learning disabilities react to the frustration which they feel in attempting to control themselves, and to understand their environments. Others approach every new situation fearful of expected failure. Many learning disabled students will avoid becoming "trapped" in any situation which their abilities will be put to the test, either by passivity and appearing not to attempt the task, or by utilizing aggressive strategies. The behavioral reaction is usually a combination of inadequacy in dealing with the environment compounded by additional unpleasant experiences and other interpersonal difficulties within the family environment.

There is reason to believe that a significant number of emotionally disturbed children are actually learning disabled children who, motorically, are unable to refrain from reacting to stimuli in their environments. This fact has been observed frequently in clinical teaching experiences. Although research is limited on this issue, social and emotional problems of learning disabled children are probably the result of continued academic failure experiences (Black, 1974; Gable, Strain, & Hendrickson,

1979; Koppitz, 1971). Since learning disabled adolescents are older and have more tenure in failure experiences, one might begin with social development with this population of students in treating language disorders.

Method

Subjects

Eighty subjects were chosen from ten high schools in the inner city of a large metropolitan area. The test subjects were randomly selected so that a cross section of male-female and black-white were represented. The majority of the total population is made up of members of lower socioeconomic backgrounds. The Wechsler intelligence Scale for Children-Revised (WISC-R) was used to determine the intellectual classification range for participants in this sample.

The two groups included: (a) 40 LD students enrolled in secondary regular classes, and (b) 40 LD students integrated in regular secondary classes and receiving additional support beyond that ordinarily provided in regular classes through learning resource centers. Only subjects who had been assigned to the identified setting for a period of at least two years were included in the study. Additional subject characteristics are presented in Table 1.

TABLE 1

Means and Standard Deviations (SD_s) for Language Disorders[a]

Chronological Age (CA)[b] and IQ[c] for the Two Groups

Groups	TOAL[a]		CA[b]		IQ[c]	
	Mean	SD	Mean	SD	Mean	SD
Regular	71.67	11.65	162.67	13.28	93.20	7.90
Resource Center	57.27	6.49	169.13	15.75	86.40	11.92

Note. [a]Test of Asolescent Language.

[b]In Months.

[c]Wechsler Intelligence Scale for Children-Revised.

Procedure

The Test of Adolescent Language (TOAL) (Hammill, Brown, Larsen, & Wiederholt, 1980) was used to measure the subjects' language disorders. The results of the TOAL are intended to serve as a measurement device in investigations where researchers are studying the language behavior of adolescents. This instrument may be used to screen adolescents who are suspected of having language problems and to quickly identify those who are performing at a level that is significantly below their peers.

Reliability

Parallel-forms reliability estimates were obtained between the groups in the amount of error variance associated with the TOAL scores. The mean reliability measure of 87% for TOAL subsets shows that the test used is reliably measuring the characteristics it was designed to measure.

Results

The data were analyzed by using an independent t-Test to test the difference between the means of the regular and learning resource center groups. A significant

difference was found among the means of the language development scores for the two groups ($t = 4.07$, $p < .05$). Therefore, the hypothesis of no difference was rejected.

Discussion

Investigation has suggested that language development of learning disabled adolescents in learning resource centers was lower than that of learning disabled adolescents in regular classes. This was so even with additional treatment for their language disabilities in learning resource centers.

The learning resource center group subjects were older and displayed lower IQ scores than the regular class group. The larger standard deviation scores in chronological age demonstrated by the learning resource group shows that there was more dispersion among the scores of this group. This finding is suggestive of the variety of candidates being served by the learning resource center. The large difference in language development displayed by the two groups suggests further study.

Given that the purpose of Special Education is to improve the skills of the learning language disabled child, the results of this study are surprising as well as disturbing. The findings would suggest that special education programs aimed at the treatment of language disorders

may be inadequate, and may even hinder or limit the actual potential of the language disabled student.

The fact that mastery of language demands that the student be able to organize both auditory and visual processes, the integrative functioning of the brain must be intact. Since 80% of sensory integration takes place at the brain stem (unconscious) level, it would appear that traditional classroom activities that focus only on the functioning of the brain at the cortex (conscious) level would have little effect on remediation of language disorders that are due to poor integrative functioning of the brain. The findings of this study tend to support this reasoning, thereby suggesting a need for educators to look closer at non traditional practices, suggestive of reports of (Ayres & Malloux, 1981).

In summary, regardless of whether learning disabled adolescents are served in regular classes or learning resource centers, if the treatment approach does not include some measure of psychoneurological processes, language development will be minimal. Providing learning disabled adolescents with programs that develop appropriate language facility is prerequisite for valid professional competence.

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